

Lawrence Robert Wilson

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Highlights of Qualifications

- Enrolled in year 1 of 4 in McMaster University's Engineering 1 Co-op Program, **eligible for 4-month co-op** placement starting May 2025
- Strong experience handling electrical and mechanical systems in trade work and extracurricular teams
- Proven communication and reliability working in fast-paced, collaborative work environments

Education

Bachelor of Engineering (Co-op) | Hamilton ON

2024 – 2029

McMaster University

Work Experience

Electrical Apprentice Placement | Toronto ON

September 2023 – May 2024

Smith's Electrical Services

- Participated in Specialised High Skills Major program, gaining two terms of co-op academic credit
- Assisted licensed electricians in residential and commercial wiring projects, including installing outlets, switches, lighting fixtures, and circuit breakers
- Gained hands-on experience with tools such as multimeters, conduit benders, and wire strippers while adhering to safety protocols and Ontario Electrical Safety Code standards
- Collaborated with building and facilities teams on multiple projects, highlighting teamwork and communication abilities in fast-paced settings

Store Associate (Part-time) | Toronto ON

May – August 2023

Food Basics

- Delivered customer service by assisting shoppers with all inquiries, demonstrating communication and critical-thinking skills in real-time scenarios
- Collaborated with other associates to perform routine tasks, showing teamwork in fast-paced settings
- Adhered to health and safety regulations, including food handling protocols and sanitation procedures, contributing to a safe shopping environment

Projects

Assistive Gripper Arm

February – April 2025

First Year Engineering Course Final Project

- Fabricated an extendable arm for a client with a disability to assist them in daily activities
- Programmed a Raspberry Pi using **Python** to extend and retract arm based on user movements
- Developed a joint mechanism using **Autodesk Inventor**, ensuring low-resistance movement of arm
- Managed team of 4 throughout project timeline by organizing individual members' workflows and deliverables, ensuring all documentation standards and deadlines were met

McMaster Design League "Designathon" Competition

- Designed an innovative, accessibility-focused automatic door system using **SolidWorks**, addressing mobility challenges for individuals with physical disabilities
- Applied universal design principles to create a hands-free, sensor-activated mechanism with adjustable height and force settings for inclusive usability
- Produced a complete 3D model and technical drawing package, including exploded views, motion simulations, and tolerance analysis
- Presented final solution to industry judges, emphasizing feasibility, and potential real-world impact

Arduino Robot

September 2024 – January 2025

McMaster University Sumobot Competition

- Constructed a 15x15x10 cm mini robot that is designed to push other robots outside an arena
- Programmed **C++** movement algorithms based on data coming from an infrared sensor
- Used **AutoDesk** Inventor to create and 3D print CAD models, improving robot durability
- Achieved 4th place in competition out of 30 competitors, winning \$25 dollar prize

Extracurricular Activities

Electrical Team Member

January 2025 – Present

McMaster University Aerial Robotics Club

- Designed and integrated electrical systems for autonomous unmanned aerial systems (UAS), including power distribution, motor control, and sensor integration
- Utilized **Altium Designer** to create and optimize circuit boards, improving system reliability by 15%
- Performed field testing and troubleshooting, reducing electrical system failures by 25%
- Collaborated with mechanical and software teams to ensure seamless integration of electrical systems, highlighting communication skills and adaptability in interdisciplinary environments

General Member & Volunteer

October 2024 – Present

McMaster Engineers With Disabilities

- Participated in mentorship program as a mentee, gaining professional relationship experience
- Engaged with monthly mentor events with other mentor-mentee pairs, developing communication and interpersonal relationships skills
- Supported general club events as a volunteer ensuring event plans ran smoothly, highlighting critical-thinking and communication skills in fast-paced environments

Skills

Autodesk Inventor	Python	Fusion360
Fusion360	C++	Microsoft/Mac OS
SolidWorks	MATLAB	MS Office
GRANTA EduPack	Altium Designer	GSuite Applications